RECIPROCITY

Published by:
THE NEW SCIENCE ADVOCATES
P.O. BOX 223
WATERVLIET, N,Y. 12189

Vol. III, No. 3; (Number 7, Old) December, 1973

GRAVITATIONAL MOTION AN INTERACTION?

Isaac Newton's Law of Gravitation does not imply that the sun actually pulls physically on a planet such as the earth. Similarly, it does not imply that the earth pulls on the sun. Newton's result does not even imply that the sun and the earth act on the space-time between them to produce a gravitational wave motion at the rate of 3×10^5 kilometers/second. While the sun and planets appear to be interacting in some way, the law deduced by Newton applies to them even if they are NOT actually interacting, even if the planets and the sun have each been going its own separate way ALL THIS TIME and NOT in fact interacting AT ALL with each other either directly or indirectly.

The above reflections in accord with Dewey Larson's 160 page book, BEYOND NEWTON, are prompted by the publication of a new 1,279 page textbook, GRAVITATION, by Charles W. Misner, Kip S. Thorne and John Archibald Wheeler. In this big book no room is found to examine the possibility that gravitation may not be an interaction, because from the beginning the authors take it for granted that gravitation must be an interaction. They are quite certain that the assumed interaction must involve a deformable, "curvable" space-time continuum assumed by Einstein when he derived his general relativity theory of gravitation physics, also known as geometro dynamics.

Of course, if it is not true that space and time form a 4-dimensional self-unmoving continuum and not true that gravitation is any kind of interaction, then geometro dynamics, no matter how sophisticated its mathematical development, is bound eventually to fail of the errors of its assumptions. This has happened before, for example, to the Aristotelian-Ptolemaic physics, resting on the conviction that God placed earth immovably at the center of the known universe, earth being humankind's home.

The mathematics of geocentric physics became with time so weird that one youth, obliged to learn it, said of it, according to legend: "If the Lord Almighty had consulted me before embarking upon the creation, I should have recommended something simpler." This was the person who became Alfonso X, King of Leon and Castile, called Alfonso the Wise, who sponsored a famous set of astronomical

tables in the thirteenth century, according to Professor I. B. Cohen. However, the mathematics of pre-Copernican European physics could not save it, once it became evident that its initial assumptions were incorrect.

Newton's Law of Gravitation is a mathematical statement of the physical truths implicit in Johann Kepler's laws of planetary motion. Kepler found that the planet Mars moved in elliptical paths and that during each cycle of planetary motion an elliptical focus was located near the sun's center. He inferred that the other planets known to him should behave the same way and they do. Kepler found also that the radius vector from the sun to Mars traversed equal sectorial areas in equal time intervals. This relation also holds for the other planets. Kepler furthermore found that the ratio of the cube of the elliptical semimajor axial length to the square of a planet's orbital period was the same constant for all the planets known to him and is the very same for planets unknown to him.

Thus, Kepler's laws affirm facts, physical truths, truths disregarded by Galileo, but confirmed and acknowledged by Newton. From the facts established by Kepler, Newton deduced a new mathematical statement, his Law of Gravitation, a logically necessary conclusion from Kepler's facts. Newton's Law states that the mathematical cause of the apparent mutual attraction between sun and planet is directly proportional to the product of their masses and inversely proportional to the square of the distance between their centers of mass, since both are spherically symmetrical bodies.

Larson accepts Newton's Law of Gravitation as a mathematically valid statement of Kepler's laws of planetary motion. However, Larson's theory rejects all interpretations of the Law of Gravitation which regard gravitational motion as caused by some physical interaction between material systems, whether through a space-time continuum or by action at a distance. Instead the law of gravitation is an expression of the inherent physical motion of all material systems toward ALL space-time locations, whether or not such locations are occupied by matter. The space-time locations in Larson's theory are not continuous and not stationary, but rather discrete aspects of an outward self-moving space-time progression at the uniform rate of 3×10^5 kilometers/second. The expansion of the physical universe of galaxies in all directions is attributed to this specified scalar increase of space with increasing three-dimensional time. According to Larson's theory, the entire physical universe is constituted from one component, motion, existing in three dimensions, in discrete units and in two reciprocal forms, space and time. The true physical zero is unity, unit velocity, C. The scalar space-time progression is always away from unity; gravitational motion of matter always toward unity.

RELATIVITY THEORY CONCEPTUALLY VALID?

The following comment by Dewey Larson asserts that the Relativity Theory of Einstein, while mathematically impeccable, is conceptually invalid, and cites the Clock Paradox of Einstein as evidence in support of this conclusion.

A principal objective of RECIPROCITY is to promote understanding of the Reciprocal System of physical theory, authored by Larson, according to whom time and space are reciprocally related in every motion.

Keep in mind that the time and space dealt with by Larson is the same space and time Einstein attempted to describe by his theory.

To the editor of Reciprocity: (From Dewey Larson, Portland, Oregon)

I would like to call the attention of your readers to a series of letters in Nature initiated by a question raised by the prominent British scientist Herbert Dingle with respect to the special theory of relativity, and culminating in a communication from Professor Dingle published in the Aug. 31, 1973 issue of that journal.

As I have pointed out repeatedly in my publications, the theoretical development based on the postulates of the Reciprocal System arrives at the same mathematical results as special relativity, and therefore agrees that from a mathematical standpoint, special relativity is correct. But, as I have also pointed out, the current tendency to accept the mathematical validity of the theory as proof of its conceptual validity is completely unjustified. The serious consequence of this illogical reasoning is that it leads to a refusal on the part of most physicists to recognize the definite and positive evidence which shows that the special theory is not conceptually correct.

The issue raised by Professor Dingle concerns one such proof known as the "Clock Paradox". It is generally conceded that if a theory claims to be valid within certain limits, it must apply to all situations within those limits, and consequently, a demonstration that the theory is not valid in some particular one of these situations invalidates the theory. The Clock Paradox involves defining a situation in which a straight-forward application of the special theory results in an obvious absurdity. This shows conclusively that the theory is not conceptually valid, in spite of its irreproachable mathematical standing.

In the statement of this paradox we assume that a clock B is accelerated relative to another identical clock A and that subsequently, after a period of time at a constant relative

velocity, the acceleration is reversed and the clocks return to their original locations. According to the principles of special relativity clock B, the moving clock, has been running more slowly than clock A, the stationary clock, and hence the time interval registered by B is less than that registered by A. But the special theory also tells us that we cannot distinguish between motion of clock B relative to clock A and motion of clock A relative to clock B. Thus it is equally correct to say that A is the moving clock and B is the stationary clock, in which case the time interval registered by clock A is less than that registered by clock B. Each clock therefore registers both more and less than the other.

As many competent observers -- Richard Schlegel and G. J. Whitrow, for example -- have emphasized, this proof that the special theory is conceptually invalid has never been refuted except by making assumptions that contradict the basic principles of the special relativity theory itself (such as the introduction of "motion relative to the fixed stars"). But this has degenerated into an emotional issue in which logical reasoning has been shunted aside. As Dingle says, it has simply "become impossible for mathematical physicists to believe that this theory can be wrong", and when anyone such as he points out just how matters actually stand, they resort to "one esoteric evasion after another", as the letters printed in Nature clearly demonstrate.

Professor Dingle characterizes this as a "tragic" situation for science, and concludes his letter with a warning that is well worth careful consideration. We should, he says "take such steps as will ensure that in science the traditional absolute authority of reason and experience over automatic adherence to any theory, however attractive and temporarily successful, is restored before the inevitable consequences of neglecting that duty come upon us".

FERRÉ-GRÜNBAUM CONTROVERSY ON MIND-DEPENDENCY OF TIME

Carla Rueckert's précis of this controversy in September, 1973 RECIPROCITY has drawn interesting reader response. Professor Grunbaum has disapproved the contention that his thought-dependent theory of time fails to account for the directedness of time flow. Perhaps the most interesting comment on the précis has come from Dr. Thomas E. Phipps of McLean, Virginia:

"Incidentally, on the Ferré vs Grünbaum issue this was a very high-quality summary. Ferré is right, of course, but I think he knows not quite how-right or why. His arguments are all philosophers' reasonings, which lie somewhat beside the point for a physicist. Only the last-quoted remark is really on-target. It is physicists (even more than the philosophers he speaks of) who should not be 'slavishly bound to the set of abstractions current in mathematical physics'. (Continued on Page 8)

EDITORIAL POLICY OF RECIPROCITY FOR 1974

In assuming the editorship of RECIPROCITY the present editor opened up the newsletter on page 5 of Issue 5 (Vol. 3, No. 1, 1973) to "investigations of all allegedly scientific speculation about the structure of the physical universe". A corollary of this tactic was to invite unedited comment from supporters of the newsletter.

The experience of the past year has convinced the editor that this tactic is mistaken for two reasons. The tactic has obscured the principal objective of RECIPROCITY, which will be and has been to promote understanding and eventual acceptance of the reciprocal system of physical theory. The tactic is impractical for a newsletter which for the past year and the foreseeable future consists of seven pages per issue.

In consultation with members of the Executive Committee of New Science Advocates, the Editor therefore has decided to discontinue the broad scope and unedited comment tactic after the present issue. An example of the kind of comment that will not be printed in RECIPROCITY from now on is the unedited comment of Mr. H. Bosch in this issue.

The editorial policy of RECIPROCITY for 1974 will be the policy declared in Issue 1, August 1971 as follows:

The objective of RECIPROCITY will be to promote understanding and eventual acceptance of the reciprocal system of physical theory.

1. By reporting events and developments that have some significance in connection with the theory.
2. By reporting the activities of individuals who are working on extending the theoretical system to new fields, into greater detail, or to specific applications.
3. By calling attention to and commenting on publications concerning the reciprocal system or of interest in connection with it.
4. By publishing comments and suggestions from individuals interested in the theory and its applications.
5. By providing a clearing house for questions concerning the theory.
6. By publicizing forthcoming lectures or meetings (including regular meetings of various scientific societies) at which matters relevant to the reciprocal system will be, or can be, discussed.

Contradiction in Modern Theory (An Addition)

It is the contention of relativity, that it does not upset cause and effect. It, however, does do so. The sequence of cause and effect cannot be altered. Thus a cigar must be lighted before being smoked. We cannot reverse this and start with a cigar stub and end up with a complete cigar followed by the match. The lighting of the match must precede the burning cigar. A theory, that cannot sustain the principle of cause and effect is not a true one, despite the hot-tempered contentions of our most distinguished professors. I will give a simple illustration based on the one contained in the above title.

Relativity says simultanety of events for one observer is not necessarily so for another moving differently. The Britannica, Volume 19, page 99, year 1969, says, "For example take as one event the great fire of London and for the other event the outburst of the Nova Persei. The observer, who is at rest relative to the earth (and so relative to London) will split space time with his co-ordinate axis and find that the outburst took place a century before the Great Fire and millions of miles from London. An observer, who travels with a constant velocity relative to the earth, may conclude that for him the distance and time elapsed is different. There will even be an observer with a certain velocity such that, for him the two events took place simultaneously." This is, of course, a good example of the insanity of mathematicians, who believe anything written in lengthy equations has to be the truth.

If the earthman finds the outburst to be in year 1566 and the fire in 1666 and the light reaching earth in 1901, it would take 335 years for the waves to make the trip. It can be better stated by saying the wave of light made the trip in 335 earth orbits around the sun. The second observer, who found the outburst to be in 1666 would find the wave to have made the trip in 235 earth orbits. It is necessary, they both see the wave arrive at orbit 1901, because the wave is a cause which produces an effect, such as acting on a camera film to make a picture. Only those of hopeless insanity or zero integrity will claim the same light wave arrived in 335 earth orbits and also in 235 earth orbits.

We can help such a one to see the truth of my contention, by considering what happens when a second picture is taken in 1951 or 50 earth orbits later. Since the waves are gaining on themselves, as seen where the wave gains 100 orbits in the total trip, they would gain 15 more orbits in 1951. The light wave would arrive in orbit 1936 for the second observer and in 1951 for the earthman. Cause and effect are upset, for the same light wave cannot act on a camera film at orbit 1936 and also orbit 1951.

Our expert mathematicians, professors, scientists and scholars are, like the king of old, as naked as jay birds. Their reaction to the child, who comments on their nudity is not as in the legend, but is instead a screaming falsetto order of "off with his head." This I know from over forty years of dismal experience with them.

Herbert A. Bosch
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SUPPORT RECIPROCITY

This newsletter RECIPROCITY is published to produce an adequate evaluation of the integral conception of motion in terms of three-dimensional, discrete and reciprocally related time and space, proposed by Mr. Dewey Larson, author of Portland, Oregon.

The books and other publications of Mr. Larson can be obtained by writing to North Pacific Publishers, P.O. Box 13255, Portland, Oregon. An elementary treatment of the Reciprocal Theory is the UNMYSTERIOUS UNIVERSE by Ronald W. Satz, which can be obtained by sending for it to him.

NEW SCIENCE ADVOCATES, publisher of RECIPROCITY, is a non-profit organization, formed for the above stated purpose. If you are interested and willing to support RECIPROCITY, please send a voluntary annual donation in an amount of your choice or, if you prefer an amount to be specified, say five dollars, and, if you are not already, become a member of NEW SCIENCE ADVOCATES for 1974. Please send it to Mr. Ronald W. Satz, NEW SCIENCE ADVOCATES, P.O. Box 223, Watervliet, N.Y. 12189 and mark that it is for RECIPROCITY. As many issues of the newsletter will be published in 1974 as desired and supported.

Please address all communications concerning RECIPROCITY to the editor, Professor Frank H. Meyer, University of Wisconsin-Superior, Physics Department, Superior, Wisconsin 54880. Please keep comment for printing in RECIPROCITY brief, at least until the newsletter can be expanded beyond its present seven-page length. After this issue the right to edit and/or abbreviate every communication with the consent of its author is reserved.

FUTURE FEATURES

There is no lack of questions and issues pertinent to Larson's Reciprocal Theory, that require further inquiry. Questions about the theory are invited and will be answered to the best of our group ability. Original work dealing with the many issues and unfinished treatment of the theory proposed by Larson will be particularly welcome. Treatments allied to but distinguisable from those of Larson relating to the essential nature of time and space or space-time will be considered for publication in RECIPROCITY. Objections to or criticism of Larson's thought will be printed, if thought by us to be reasonable, valid or otherwise useful.

The situation in which we think that we are advocating new science is aptly summarized in the October issue of the JOURNAL OF COLLEGE SCIENCE TEACHING about old modern physics:

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"Grünbaum is correct that 'contemporary physics requires disbelief in becoming'. It also requires disbelief in the definiteness (non-stochastic nature) of history. In fact it requires disbelief in so much that every child knows that it is just plain wrong as physics -- and such a judgement about contemporary physics has to underlie Ferre's critical position."

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"Contemporary physics appears to be in a state of crisis. The crisis is not one of technology, instrumentation, or measurement, but rather seems to involve a breakdown in our fundamental belief about the nature of the physical world."

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